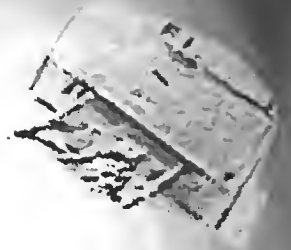


NVDI

B



NVDI

NVDI is a product of Behne & Behne Systemsoftware GbR. NVDI uses Bitstream® 4-in-1 Processor Technology and therefore has access to Speedo™, TrueType™ and Postscript® Type 1 fonts.

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Introduction

Thank you for buying NVDI. You have acquired a powerful system extension, from which many programs will benefit. NVDI links vector fonts into the system, enables printing on laser, inkjet and dot matrix printers, enhances the system with new screen and colour functions and accelerates the screen output.

In this new version NVDI incorporates Speedo™, TrueType™ and Postscript® Type 1 vector font scalars. In combination with the new printer and image drivers, NVDI makes WYSIWYG possible with even higher speed and quality than before.



When used on a Macintosh computer with MagiCMac, in addition to the ST resolutions, NVDI supports resolutions with 2, 16, 256, 32000 and 16 million colours. Where available, the hardware accelerators of Mac graphics cards have been utilised.

In addition to Speedo and PC TrueType vector fonts, NVDI uses the Macintosh TrueType and Postscript Type 1 fonts, which are already installed in the *Fonts* directory of the Macintosh. Therefore, the fonts need only be available in one format on the hard drive. An extra printer driver is also included which allows documents to be printed via any Mac printer which is available through the Mac chooser. Using this, output to Quickdraw and network printers as well as fax software is possible.



When used on a PC with MagiC-PC (the MagiC environment for Windows95, 98 and NT), NVDI has installed screen drivers for 256, 32000, 65000 and 16 million colours, which gives very fast screen updates because of the built-in 80x86 code.

System Requirements

NVDI requires 2MB RAM and a hard disk to run. With MagiC 5, MagiCMac 2.0 and MagiC-PC 1.0, background printing is possible. To print to a colour printer, there must be between 5kB and 300MB free (depending on the application, print resolution and page format).

Hard Disk Space	: ca. 4MB (for full installation)
Minimum RAM	: ca. 400kB
Maximum no. of fonts	: depends on the available RAM size
Supported font formats	: Bitstream Speedo, PC TrueType, Windows 95 TrueType, Macintosh TrueType (MagiCMac only), PC Postscript Type 1, Macintosh Postscript Type 1 (MagiCMac only).
Supported printers	: PCL Compatible, Canon Native Mode Compatible, ESC/P2 Compatible (Stylus Color), Epson LQ Compatible, Epson FX Compatible, NEC P6 Compatible, Quickdraw output (MagiCMac only).
Other support	: for <i>IPRN for MagiC</i> - a device driver for the printer port which provides buffered, interrupt controlled printing with maximum speed (using ATARI compatible hardware). NVDI contains a VDI fax driver for the Fax software <i>TeleOffice 3</i> , which lets you send faxes from all applications that can print via NVDI.

Installation

The NVDI disk contains a program called **INSTALL.PR**G, which performs the installation for you. Start the program by double-clicking on it. The customisation dialogue box will appear:

Customisation

Serial number: 123456789

Name/Company: C. Battenberg

Street: Elm Street 11

Town: Windsor SE 3 RS - UK

Cancel Install

Enter the serial number which is printed on the disk label and fill in the name and address fields. Type carefully as the serial number must be absolutely correct. Use the **TAB** key to advance to the next field.

After entering personal details and hardware identification, NVDI can be configured. Select the desired printer in the configuration dialogue box:

Configuration

Boot drive: C:

CPX folder: C:\CPX\

Spool folder: C:\AGEN\SYS\SPOLL\

Vector font folder: C:\BIF\ONTS\

Printers:

- Epson Stylus Color 600
- Epson Stylus Color 800
- Epson Stylus Color II
- Epson Stylus Color IIs
- Epson Stylus Color Pro
- Epson Stylus Color Pro XL
- GCC Elite 1212
- HP Deskjet 1100 Color
- HP Deskjet 1200 Color
- HP Deskjet 500/510/520

Cancel Continue

If you are installing NVDI on a Mac and wish to use the Mac printer driver, click on the entry **Quickdraw output**. Under **Spool folder** choose a drive with plenty of free file space, where the buffer files for the printer output can be stored. The **Boot drive** displayed by the installation program and the directories used for control panel modules need not be changed, assuming a standard computer configuration.

While NVDI is installing, please fill in the enclosed registration card; you can only be notified of new developments and upgrades if you are a registered user.

After successful installation of NVDI the file README.1ST is displayed, which contains additional user information. NVDI is started automatically on the next system start-up.

Before you restart the system, make sure that the NVDI configuration will not be changed or destroyed by a boot selector (see also the chapter on *Configuration Hints*). To abort the NVDI installation during the system start-up, hold down the left **Shift** key and the **Control** key together.



If you use MagiC's AUTOEXEC.BAT file to execute the programs in the AUTO folder, you must also include NVDI.PRG and WDIALOG.PRG, in order for them also to be loaded.

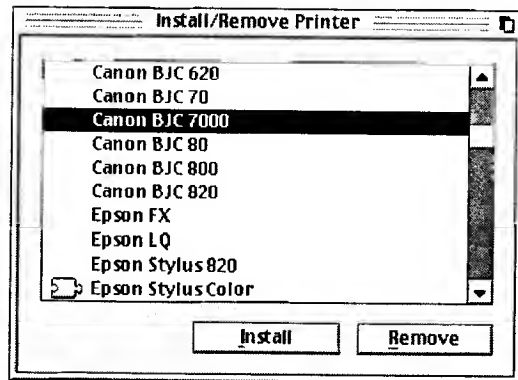
If you use MagiCMac, please read the chapter on *NVDI/Mac* before restarting. If you use MagiC-PC, please read the chapter on *NVDI/PC* before restarting.



If you run NVDI with an ATARI graphics card (ET 4000 / MatGraph), please read the chapter on *NVDI Graphics Card Versions* before restarting.

Additional Installation of Printers

In the directory NVDITOLS you will find the program INSTPRNT.APP, with which you can install more printers or remove currently available ones. On starting the program the following dialogue box appears:



This displays all available printers. A small icon is displayed next to each printer name, which shows if the printer is already on the system.

To install a printer, click on the printer name and then click on the **Install** button. To remove a printer, click on the printer name and then the **Remove** button.

After finishing the printer installation, the default printer must be re-selected in the **Printer control panel**.

Features of NVDI/Mac

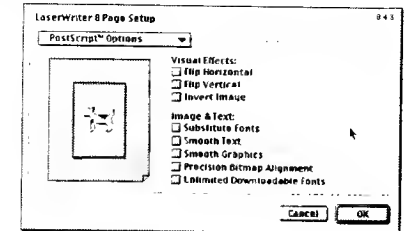
The information in this chapter is only relevant to users of MagiCMac who use the Mac printer driver.

The printer driver MACPRN.SYS, which is included with NVDI, allows you to print via the selected active Mac printer (it is assumed that the **Quickdraw output** was selected during installation). The printer configuration can be found in the **NVDI Printer control panel**, as with other NVDI printers (see the chapter on *Configuring NVDI*).

If you use an ATARI program which only supports 8 colour printing (e.g. Signum or XACT), you should disable the colour correction for the base colours of the printer (Cyan, Magenta, Yellow and Black) and the dithering in the Mac printer driver. In Mac drivers you will usually find a switch labelled 'graphic' or 'office graphic' mode for this purpose.

Mac printer drivers often offer options which have a negative effect on printout, causing extremely long print times. We recommend the following settings:

- Larger print area on
- Substitute fonts off
- Smooth text off
- Smooth graphics off
- Optimise bitmap print (4% reduction) off
- Precision Bitmap Alignment off
- Unlimited Downloadable Fonts off



Technical Background

If options like 'smooth graphic' or 'optimise bitmap print' are active, the Mac driver must recalculate and reduce all the printer data, which has already been generated at the printer resolution (thereby losing data). The Mac driver will always either fail completely due to lack of memory or print a page of disappointing print quality, depending on memory configuration.

Memory Allocation

Some Macintosh printer drivers use memory from the Mac application MagiCMac. If there is not sufficient memory you will get an error message. You can remedy this by reserving more memory for MagiCMac. Select the MagiCMac application icon with the Apple Finder, call Get Info from the menu and enter a higher value (e.g. 400kB) in **preferred size** in the dialogue box.

Make sure that enough memory is reserved for Mac applications when you change the MagiCMac memory allocation (dialogue box **Settings/Memory** - Note that **Minimum Mac Free** should be 2048kB or more), so that, for example, the print monitor can be loaded when you want to print in the background.

You should also note that processor time must be given to Mac programs when you are printing in the background - **Processor time to Mac applications** in the MagiCMac system parameters dialogue box should be active.

Features of NVDI/PC

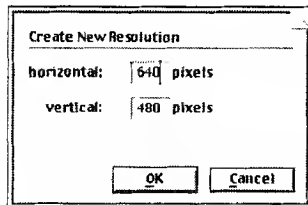
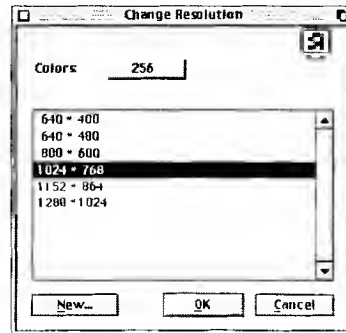
The information in this chapter is only relevant to users of MagiC-PC.

Changing Resolution

In MagiC-PC you change the resolution directly from the desktop. The following dialogue box appears:

In addition to the ATARI resolutions, which you can use in accordance with the MagiC-PC Screen settings, NVDI/PC provides adjustable resolutions of 256, 32000, 65000 and 16 million colours.

When you have newly installed NVDI/PC no pre-defined resolutions exist. Switch to the desired colour depth (e.g. 256 colours) in the colour dialogue box. Click on the New button.



A dialogue box appears where you can define the size of the MagiC-PC screen in pixels. Confirm this by clicking on OK. Select the desired resolution from the list and confirm.

If you wish to remove a resolution from the list hold down Control key and click on the entry.

Hint: If your Windows system can only go up to 16 bit colour, with NVDI/PC you can still select a colour depth of 16 million colours (32 bit true colour) and use this resolution to run Calamus SL or other image processing applications (Windows handles the 32 bit to 16 bit data conversion). This possibility is of particular interest for graphics cards with only 2MB memory, which cannot obtain the maximum resolution of 32 bit due to graphic card memory limitations.

Note that although it is possible to run MagiC-PC in more than 256 colours while the graphics card is set to 8 bit (256 colours) in Windows, this is not recommended because the resulting quality of Windows colour mapping is not pleasing.

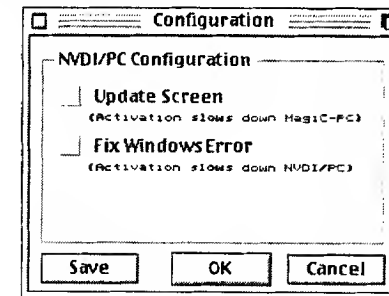
Calamus display driver

With NVDI/PC NCALDRV.PRГ is included; a special screen driver which allows the operation of Calamus SL in 256 and 16 million colours. Note that Calamus SL will only run in 256 and 16 million colour modes (selected via the resolution selector in MagiC-PC). Calamus SL will not run in 32000 and 65000 colour modes.

If you use MagiC's AUTOEXEC.BAT file in the AUTO program folder, check that the Calamus screen driver NCALDRV.PRГ is also listed after NVDI.PRГ.

NVDI/PC configuration

NVDI/PC includes the control panel NFPCCONF, with which you can handle Windows and MagiC-PC specific settings.



The switch **Update Screen** activates a special NVDI routine to allow Atari programs, which bypass the operating system by addressing screen memory directly (a process which is not supported by Windows), to write to a hidden screen which is then immediately written to the visible screen. This option is costly in terms of processor time (it slows all applications under MagiC-PC) and should only be used for *short* periods of time in low resolutions (e.g. 640*480) with low refresh rates (see **System parameters** of MagiC-PC).

The **Fix Windows Error** switch corrects an error which has been discovered with Windows 95, Windows 98 and Windows NT 4.0 graphics card drivers; in 16 bit and 32 bit colour, moving the mouse pointer over a light coloured area can give rise to a fleck of colour. Enabling the **Fix Windows Error** option avoids this error and slows the output of NVDI by approximately 5 to 10 percent. This error has not been seen as yet with Windows NT 3.51.

Windows Vector Fonts

In addition to the known ATARI vector fonts, NVDI can also use TrueType fonts available with Windows. There are three features to note:

- NVDI must have access to the vector fonts. List the *Windows Fonts* directory in the MagiC-PC drive allocation. Select the *Windows Fonts* directory in the NVDI **Fonts & Caches** control panel (or enter it in the file NVDI.INF using a text editor). In Windows you can find the vector fonts in the *Windows* directory in the *Fonts* directory.
- Windows is not able to find vector fonts grouped together in a subdirectory. In the NVDI utility program **Fontname**, you will find a switch **Create subdirectories for font families**, which should be switched off when you access the *Windows Fonts* folder with **Fontname**.
- Vector fonts which NVDI rejects as faulty are faulty even if they are accepted by Windows. Either an error is present in a checksum of the font (which can be harmless) or the font data itself contains a fatal error.

Features of the NVDI Graphics Card Versions

The information in this chapter concerns the use of NVDI with a graphics card (ET 4000 or MatGraph). In order to use the features of the graphics card, three supplementary programs are included - REDIRECT, SLCT_DEV and CHGRES, with which you can set resolution and colour depth, as well as virtual resolution.

Installation

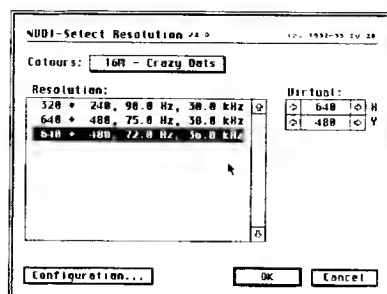
The installation program copies NVDI and the extra programs REDIRECT and SLCT_DEV into the AUTO folder without changing the order of programs already in the AUTO folder (you can see the physical order of programs on the hard disk in the desktop by setting the sort order to *unsorted*). However, if you use other programs which also redirect system calls, you should stick to the following order: REDIRECT, ..., NVDI, ..., SLCT_DEV. See also the chapter on *Configuration Hints*. The extra program CHGRES is only for users of MagiC (version 4 or later) - it replaces the AUTO folder program SLCT_DEV. The individual programs have the following tasks:

REDIRECT

This program copies anything on the ATARI screen to the graphics card screen and then redirects (almost) all output from subsequent programs to the graphics card screen. REDIRECT should be the first program (physically) in the AUTO folder so that you can follow the messages of the hard disk driver when no ATARI monitor is connected. Pressing both Shift keys together at start-up will prevent REDIRECT from being installed.

SLCT_DEV

This program is used for setting the resolution and colour depth in the start phase.



The destination screen and colour depth is set in the colours dialogue box; the ATARI ST and TT resolutions are sent via the screen output of the ATARI, therefore giving maximum compatibility for games or other poorly written programs. Other colour depths (e.g. 256 - ET 4000) are sent to the graphics card screen output.

The box underneath the colours dialogue box is a list of all possible resolutions for the chosen colour depth. The **Configuration** button opens a dialogue box where you can set default parameters ('When should the choice of resolution appear?', 'How long should it wait for user input?'). SLCT_DEV should be the last program in the AUTO folder.

CHGRES

With MagiC 4 (or later) you can change the resolution directly from the desktop with CHGRES. The time-consuming restart is no longer necessary. The program SLCT_DEV is no longer needed with MagiC (rename it SLCT_DEVPRX).

ASSIGN.SYS Allocation

The graphics cards versions of NVDI not only include drivers for all ATARI resolutions but also drivers which are optimised for use with graphics card hardware.

The file ASSIGN.SYS allows a maximum of ten IDs (number 1 to 10) for screen drivers, of which six are already reserved for the ATARI TT resolutions. You may have to do without two of the ATARI resolutions, because the graphics card versions of NVDI include drivers which allow up to six extra colour depths. You can choose which ATARI resolutions you want to replace. We recommend that you replace the (seldom used) 'ST medium' and 'TT low' for the ATARI TT - the installation program for NVDI/ET 4000 creates an ASSIGN.SYS file with this configuration.

Owners of an ATARI TT with TTM 194 or TTM 195 monitors (the only possible resolution here is TT high) should edit the file ASSIGN.SYS using an ASCII editor as follows:

1. Replace the line *04p screen.sys* with the entry for the graphics board 2 colour driver. Example (for NVDI/ET 4000):

04 XVGA2.SYS

2. Replace the graphics card 2 colour driver (ID 8) with the *screen.sys* driver. Example:

08p screen.sys

Make sure that both IDs (4 and 8) only appear once in ASSIGN.SYS.

Compatibility

Poorly written programs (usually older ones) might give you errors like 'This program only runs in monochrome' when started in with the graphics card - even if you are using a 2 colour driver.

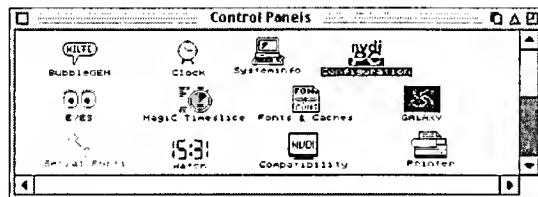
The reason for this message is usually a faulty routine in the program when it attempts to inquire the current resolution. You can often get such programs running if you register the graphics card 2 colour driver instead of the *screen.sys* driver under the ID 4 (ST high). The trade-off is that you lose the capacity to send ST high to the ATARI monitor output!

Configuring NVDI

NVDI has a number of options. To allow you to configure NVDI easily, a number of control panels (CPX modules) have been included. To run the control panels you need a special program, e.g. COPS (supplied with NVDI) or the ATARI program XCONTROL.

COPS - Control Panel Server

All versions of NVDI include the COPS.ACC accessory program. During installation it is copied into the root directory of the start-up disk. COPS can be run from the Accessory menu under the entry Control Panels.

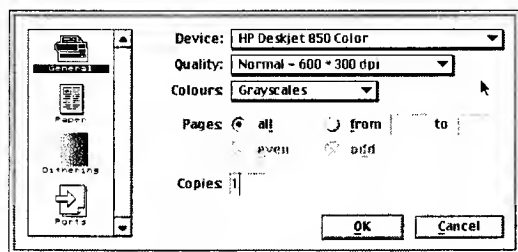


By double-clicking on one of the icons in the window, the corresponding control panel can be opened. A right-click on an icon opens a popup menu, where you can activate or deactivate the module and obtain information about it. A right-click in the window background opens a popup menu where you can select various settings (e.g. 'Directory for Control Panels').

Printer Control Panel

In this panel the settings for the printers can be changed. The following dialogue box appears when called:

General



Device

In this popup menu you will find a list of all installed printers. Select the printer whose settings you want to change.

Quality

In this popup menu you can set the output quality and mode. Note that doubling the resolution will result in a four fold increase in the amount of data (which must be processed in both the processor and the printer). For fast test prints you should select a low resolution (e.g. 300 instead of 600 dpi)

Hint: If you frequently print documents with large images, the cache on your hard disk should be fairly large (256kB or more). For some applications and printers full colour prints can produce 300MB for one page, which has to be buffered to the hard drive and then re-read.

Colours

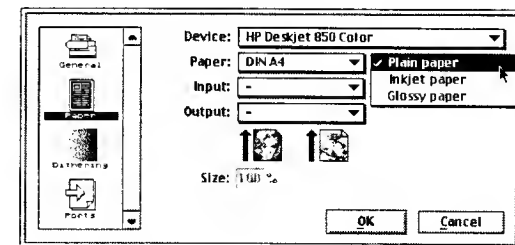
In this popup menu you can select the printer output type, from monochrome, 3 colours, greyscale or true colour (16 million colours). Note that NVDI can only correct the contrast, brightness and amount of ink used in greyscale and true colour. In monochrome or 8 colour mode the data is sent uncorrected to the printer.

Note also that some applications are only able to print in monochrome or 8 colour mode (e.g. XACT or Signum).

Copies

The number of copies of each page.

Paper



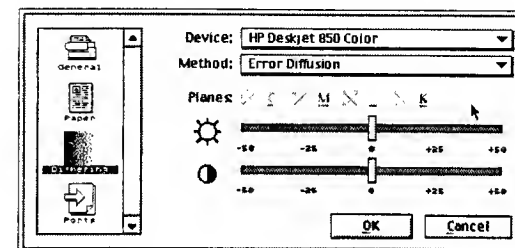
Paper

This popup menu allows you to set predefined page formats, portrait or landscape orientation and paper quality (plain, inkjet, glossy).

Input and Output

Select paper feed (manual, cassette, ...) and eject options (upper, lower).

Dithering



Dithering (true colour or greyscale only)

Sets dithering for true colour or greyscale output.

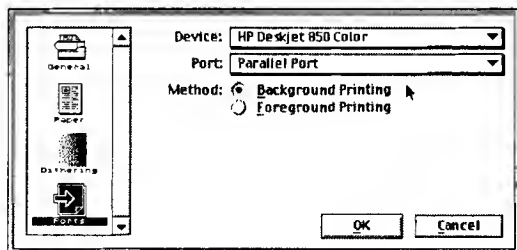
Brightness (true colour or greyscale only)

Slide bar controls brightness.

Contrast (true colour or greyscale only)

Slide bar controls contrast. By changing the contrast intensity, the output can be made lighter or darker.

Ports



Port

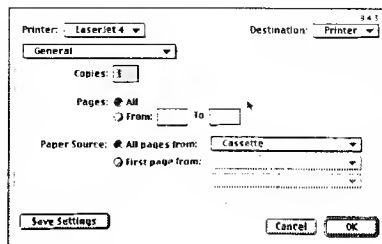
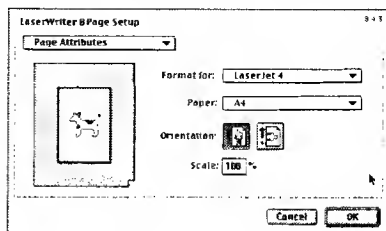
Sets whether the output is sent to the serial or parallel port or written to a file. In the last case a file selector will open in which you should enter a path and filename.

Method

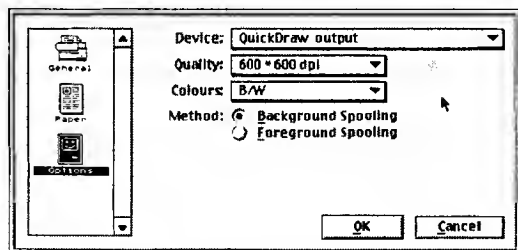
Select **Background Printing** (you can continue to work during printing) or **Foreground Printing** (the printing process blocks the processor for other programs).



If you are using the *Quickdraw output* on a Macintosh, the dialogue box will appear slightly different (depending on the Mac driver). On opening the printer control panel the Mac dialogue box for paper format appears. By clicking on the **General** button you can set the paper trays and number of copies.



Under **Further Options** the resolution, colour depth and spool mode can be set. **Background Spooling** allows you to continue working during buffering; **Foreground Spooling**, on the other hand, blocks the computer during buffering of the print job.

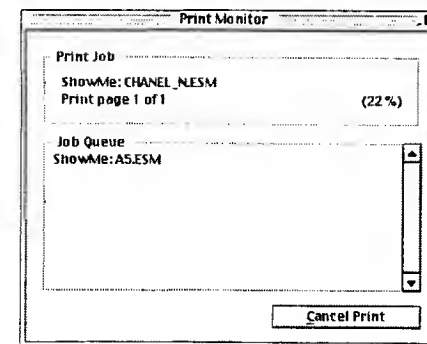


The control panel shows all resolutions the Mac printer driver offers. There is no point setting a higher resolution than the printer can cope with.

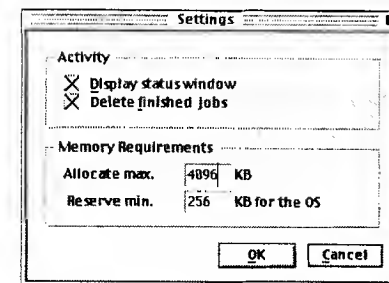
Background Printing

When MagiC 5 (or later) is used, NVDI allows *background printing*. With background printing a program (e.g. text processor) sends a print job to NVDI, which NVDI then buffers - this usually only takes a few seconds. While NVDI starts the print monitor and handles the printout, you can continue to work. The inconvenient wait for printing to finish is gone.

The print monitor displays a status window during printing, where the document, number of pages, print status and other queued jobs are shown.



With the **Cancel Print** button, the print jobs can be cancelled. Under the menu option **Options/Settings** you can select whether the status box is shown and if the print request is removed after printing. The maximum memory required for printing can also be set here.

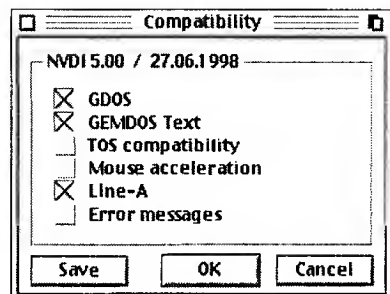


For print resolutions up to 360 dpi 2048kB should be set, for higher resolutions 4096kB or more. For the Microweave mode of the *Epson Stylus Color* printers you should set at least 4096kB so that NVDI can perform the Microweave in the processor memory. Otherwise the printing will be slowed down substantially.

If the print monitor gives an error message due to lack of memory and the print job cannot be completed, you can manually start the print monitor at a later time when more memory is available (by double-clicking on **PRINTMON.APP**). Unfinished print jobs will be automatically restarted. Note that for background printing, the **pre-emptive multitasking** of MagiC must be activated.

Compatibility Control Panel

This control panel allows you to set the compatibility options of NVDI. As a rule, GEM applications run without any problems with the standard installation of NVDI: *GDOS*, *GEMDOS Text* and *Line-A* on, *TOS Compatibility* off. These settings should only be changed with poorly written or faulty programs. On opening, the following dialogue box appears:



GDOS

This switch activates or deactivates the GDOS functions of NVDI. You should only need to switch GDOS off if you are running **faulty** programs. As a rule, GDOS should be left on because most programs rely on these functions. If you use a screen driver other than the ones which come with NVDI (e.g. because you use a graphics card for which you don't have a special NVDI driver), this switch will be activated automatically and all other switches will be locked.

GEMDOS Text

If this is switched on, GEMDOS text will be output even faster.

TOS Compatibility

If this is switched on, various faulty VDI calls and functions will be so as to conform to the ATARI VDI. However, several security checks have to be *ignored* and NVDI's capability is reduced. You should **not** leave TOS Compatibility switched on unless absolutely necessary.

Mouse acceleration

NVDI includes a dynamic mouse routine which reacts to slow mouse movements linearly and to faster mouse movements non-linearly. This option is especially recommended for large monitors.

Line-A

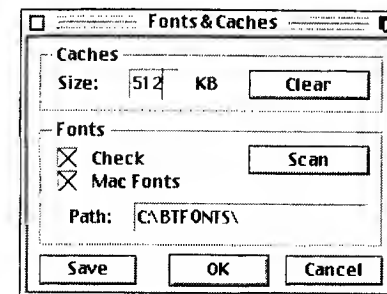
This is used for switching the so-called Line-A functions on and off. Cleanly written programs should not make use of any Line-A functions. If one or more of your applications causes strange output to the screen you should leave this switch on.

Error Messages

NVDI is capable of giving you error messages whenever a program makes faulty VDI calls. If this switch is deactivated, NVDI does not send any such messages.

Fonts & Caches Control Panel

With this control panel the options for vector fonts can be set. You can change cache size and options like font check and path. The following dialogue box will appear:



Size

Used for setting the total memory required for the NVDI caches. Printer resolutions up to 720 dpi require a setting between 200 and 500kB. The cache settings become active as soon as they are confirmed.

Clear

Flushes all vector font caches.

Check

NVDI tests all vector fonts before loading them. Defective TrueType, Speedo and Postscript Type 1 fonts are not loaded. If - at your own risk - you still want to work with faulty fonts, you must switch off the font check. Note that use of faulty fonts may cause the system to crash at any time.

Mac Fonts

Under MagiCMac NVDI loads the vector fonts from the *Mac Fonts* folder automatically, in addition to the vector fonts in PC format, so that you do not have to keep duplicate fonts on the hard disk. Switch **Mac Fonts** off if you don't want to use any MacOS fonts.

Path

This is where you can set the path where NVDI will search for vector fonts. The search is not confined to this path, but also includes one directory level below this, so that fonts in subdirectories will be found. Vector fonts in the folder *HIDE* are not loaded by NVDI when the system starts.

Scan

Whenever you click this button, NVDI searches the path for any new or removed vector fonts and loads/discards them accordingly. This feature lets you change fonts without having to reboot. If you are running a multitasking OS (e.g. MagiC) it could be necessary to terminate programs running in parallel so that they will recognise the new set of fonts.

Installing Vector Fonts

NVDI loads all vector fonts in the font folder when it starts. If you want to include more fonts, you can copy the font files into the vector font folder *BTFONTS* and then click on the Scan button in the NVDI Fonts & Caches control panel. In order to make this process simpler and give you the opportunity to view fonts before they are installed, the program Fontname is included.



Fontname

Fontname is a tool used for managing and installing vector fonts. Vector fonts can be loaded or discarded at any time and any fonts (installed or not) can be viewed or printed (either as single fonts or as a list).

Fonts included in NVDI are grouped together in subdirectories according to their font families. This helps to maintain an overview of many fonts, some with cryptic names. Fontname handles this distribution. It automatically groups the vector fonts and creates new directories for each new font family.

Installing Fontname

You should register Fontname (as an application) in the Desktop for the extensions *.SPD, *.TTF and *.PFB. Because each desktop manages this differently, we will show you an example of how to do this from MagiC-Desk:

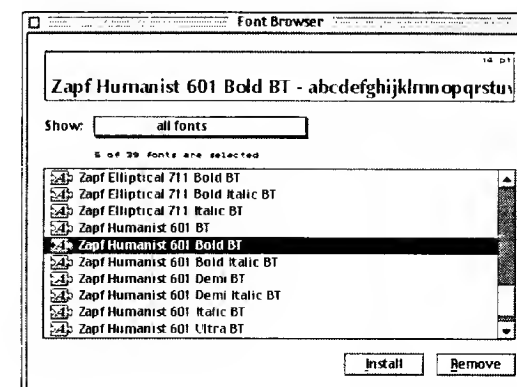
Select the program icon of Fontname and choose **Install Application** from the menu. A dialogue box is opened in which the path, type of program and start-mode can be set. Fontname should be registered as an application which supports **VA_START**. After having confirmed these entries, a two-column dialogue box opens, showing all the registered applications and their associated file types.

Select the entry 'Fontname' in the **program** column and confirm this with the **new** button in the **files** column. A dialogue box will appear in which you can enter the file types required. After closing this box, you can associate icons with the file types. You should then confirm the **Install Application** dialogue box - Fontname will now be started automatically whenever you double-click on a vector font icon.

Program Start

If you have started Fontname with a double-click, you will see an empty browser window. Vector fonts can be added to the window via the menu entry **Add Font**. **Add Folder** adds all vector fonts found within a folder. With an efficient multitasking system (we recommend MagiC, MagiC-Mac or MagiC-PC) handling can be made far easier:

- Vector fonts or folders containing vector fonts can be dragged and dropped directly into the browser window in Fontname.
- A vector font or folder containing vector fonts can be dragged onto the Fontname icon. The additional vector fonts will be displayed in the browser window.
- Double-clicking on a vector font (the file type must of course be registered) adds this to the browser window.

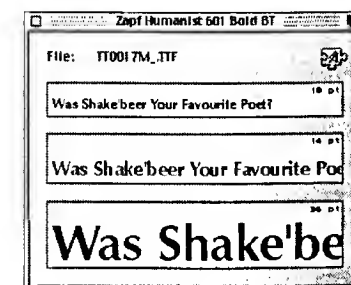


You will find all transferred fonts in the browser window, whereby any fonts already loaded into the system are marked with a small icon next to the font name.

Operation

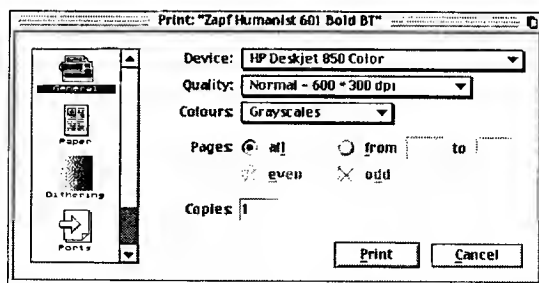
Single-clicking on a vector font name in the browser window causes Fontname to display that font. Double-clicking on the font opens an example window showing the vector font in three different sizes.

Multiple fonts can be selected by clicking on one of the fonts, holding the mouse button down and sweeping over a range of fonts. Fonts can only be deselected by either clicking on them with the mouse or via the menu entry **Deselect All**.



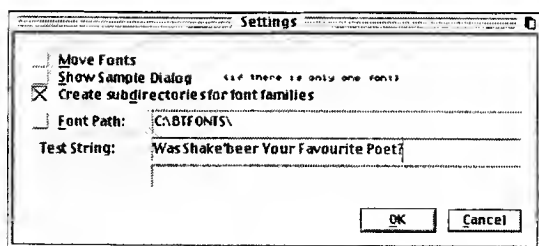
Install binds all selected fonts into the system. Conversely **Remove** removes all selected fonts from the system. Note that applications running in parallel may have to be terminated and restarted so that they can recognise any new or removed fonts.

Vector Fonts can be printed from within Fontname so that you can get a better idea of what the font looks like. You can print the example page with either an ASCII table of the font or the list of fonts in the browser window. With the fonts from the browser window you can select whether all the fonts or only the selected ones are printed.



Options

In addition to the example sentence for displaying fonts, the Fontname options include how Fontname behaves at start-up and when vector fonts are installed.



If you switch on **Show Sample Dialogue**, after start-up Fontname will open a dialogue box displaying the font in three different sizes as well as the browser window (by double-clicking on a vector font or dragging a vector font onto the Fontname icon).

Fontname installs the vector fonts in the path set in the NVDI control panel **Fonts & Caches** (fonts to be removed end up in the *HIDE* folder within this path). If you want to keep fonts in another folder, enter it here.

If you activate **Move Fonts**, Fontname does not copy the vector fonts during installation, but moves them into the target directory.



The switch **Create subdirectories for font families** must be deactivated if you work under MagiC-PC and use the Fonts from the Windows *Fonts* directory. Otherwise Windows will not find its vector fonts.

Frequently Asked Questions

Here you will find questions frequently posed to our software support and their answers.

Why does background printing through NVDI and the Mac printer driver not work?

The following problems could exist:

1. You have selected 'background printing' in the Mac chooser but the Mac does not have enough free memory to start the print monitor when MagiC-Mac is running. Possible solutions: Deactivate 'background printing' in the *Mac Chooser* or increase the memory allocation of MagiC-Mac for **Minimum Mac Free** value.
2. The switch **Give Time to Mac Applications in Background** in the *MagiC-Mac System Parameters* dialogue box is deactivated. This switch must be activated for the print monitor to have processing time.
3. You are using the Macintosh extension Speeddoubler on a PowerPC. In our experience, MagiC-Mac does not work reliably under Speeddoubler. Therefore deactivate it!

Why does the printout from NVDI and the Mac printer driver take so long?

You probably have the options **Optimise Bitmap Printing** or **Smooth Graphics** set. Deactivate these switches. You can find further details in the chapter *Features of NVDI/Mac*.

Why does Calamus SL only show the frames without any content in MagiC-PC?

Calamus writes its output directly to the display. Use the Calamus display driver *NCALDRV.PR*G which is included with NVDI. It can handle the output via NVDI and also allow Calamus to be used in 16 million colours. For further details see the chapter on *Features of NVDI/PC*.

Why do you get no output to the display after starting Signum!?

You are using an old version of Signum!, which writes directly to the screen. Solution: Use Signum! 4.3. This version uses only NVDI output. Alternatively (less recommended) with older Signum! versions you can activate the switch **Update Screen** in the *NFPCCONF* control panel. This switch, however, slows down MagiC-PC (and with it all applications).

My text editor and DTP program show 'not enough memory' when printing, even though there must be enough RAM available. What is going wrong?

This problem occurs when your application is configured to be so *multitasking-unfriendly* that it uses all the memory. NVDI also needs some memory to print (minimum 400kB; with an ATARI Laser minimum 1.2MB). To achieve a better printing speed, you should install your program such that 2 to 4MB of memory is left free for NVDI - if only 400kB is free, NVDI has to build the page in several hundred sections, which slows the printing down a lot. Precise information about the free memory can be found in the *System Info* control panel.

The Fax function with TeleOffice does not work. The print monitor appears briefly, then closes itself down straight away. What is the problem?

The Fax function with TeleOffice only works well when TeleOffice is installed as an accessory (this is a problem with TeleOffice, not NVDI).

In Papyrus, the layout and position of objects is wrong. Why is this?

Your version of Papyrus has an error in the resolution inquiry, which is fixed in *Papyrus 6*.

How much memory is reserved on the hard disk for colour printing?

NVDI must buffer all data produced by the application onto the hard disk. If the application used all the features of NVDI, the amount of data is *independent* from the printer resolution, *image enlargement* and page format (e.g. 4MB for a true colour image with 1024 x 1024 pixels). If the program sends the data to NVDI at the printer resolution, with the highest resolution, in true colour on an A3 page, 300MB can be produced - which makes the printing very slow.

Why does MagiC ignore my defaults when changing resolution settings in the desktop?

The following problems could exist:

1. MagiC stores the required resolution in the file MAGX.INF under the entry #_DEV. With new versions of MagiC this definition must be within the section #[aes], otherwise it will not be found.
2. You are using the program SLCT_DEV (included with NVDI graphics card versions) which only allows a change of resolution in the AUTO folder when re-booting. Deactivate this program under MagiC.
3. You are using an obsolete version of the program MAGICSCR.PRG under MagiC-PC, which does not allow a change to other colour depths

Background printing does not work with MagiC 5. What is wrong?

You have deactivated pre-emptive multitasking. Open the *MagiC Timeslice* control panel and activate it.

Can I increase the print speed of my ATARI?

NVDI supports the fast device driver *IPRN for MagiC*, with which you can get the maximum speed out of your printer interface.

I can't load any system fonts onto my Falcon. What am I doing wrong?

ATARI has implemented the new resolutions under ID 5 in the Falcon. Enter the line *0Sp screen.sys* and then the required system font into ASSIGN.SYS.

In the screen display of Wordplus the characters overlap. What is wrong?

Wordplus 3.15 and older versions may show display errors with the installed fourth system font (20pt). Remove the biggest system font (MONACO20.FNT) from the file ASSIGN.SYS or use Wordplus 3.15a or newer, where the error is resolved.

What is in ASSIGN.SYS and what are the files in the GEMSYS folder for?

ASSIGN.SYS contains a list of display drivers, printer drivers and bitmap fonts which are found in the GEMSYS folder.

How can I stop NVDI being installed on Start-up?

Hold down the left Shift key and the Control key during start-up.

Configuration Hints

NVDI and other AUTO folder Programs

The installation program copies NVDI into the AUTO folder without changing the order of programs already in this folder. If you want to use other AUTO folder programs which hook into the system vectors, you might have to change the physical order of the programs in the AUTO folder. NVDI should appear after the following programs:

- OS loaders (e.g. MAGXBOOT)
- Boot managers (e.g. XBOOT or TUBS)
- Programs which redirect the start screen (e.g. REDIRECT)
- NOVA-VDI, if NVDI is used on a NOVA graphics card
- Virtual memory managers (e.g. VRAM, OUTSIDE)

Any other such programs (e.g. the resolution selector SLCT_DEV, OverScan drivers, MiNT, ...) should appear after NVDI.

With MagiC (version 4 or later) you can fix the sequence of AUTO folder programs in the file AUTOEXEC.BAT. Under other systems you need a boot manager (e.g. XBOOT or TUBS) or you need to do it manually by following these steps:

- Create a new directory (e.g. "TMP")
- Copy all the programs from the AUTO folder into the new directory and delete the originals (users of TOS-version 1.04 or later can simply move the programs)
- Copy the existing OS loader, Boot manager and programs which redirect the start screen back into the AUTO folder. Then copy NVDI and lastly all other programs in "TMP" back into the AUTO folder.
- Delete the "TMP" folder

Finding Errors

Well written GEM applications run happily with a standard NVDI configuration:

GDOS, GEMDOS Text and Line-A on, TOS Compatibility off.

Possible sources of problems are:

- One of the accessories or AUTO folder programs attempts to access undocumented internal VDI variables, to modify Line-A variables illegally or modifies system vectors. You can often pinpoint the culprit by activating or deactivating these programs one by one until the problem disappears.
- An application doesn't work with GDOS. Switch off the GDOS functions of NVDI and restart the application. If the program works fine, please contact the manufacturer and explain the error.
- The application is not happy with NVDI's extended functions. If a program doesn't cause any trouble after you have switched on **TOS compatibility**, you should report the problem to the software manufacturer.
- The application uses Line-A functions. Activate the **Line-A** switch.

GDOS programs

Do not use NVDI together with GDOS programs. You would only reduce the NVDI speed unnecessarily and would also risk crashing the computer.

VDI patches

There are several patch programs used for correcting errors in the ATARI VDI. NVDI doesn't need these patches. You should remove all VDI patch programs from your AUTO folder.

The First Printer Driver in ASSIGN.SYS

Some older programs only recognise a device driver when it has the first possible code for that type of device e.g. 21 for a printer drive and 31 for a metafile driver.

Too many fonts

There are a number of older GEM applications which are only able to work with a limited number of fonts. Reduce the number of included bitmap and vector fonts. If the application now runs without any errors, please inform the manufacturer of the problem.

Saving Memory

Not enough memory! At some point in time there is always a moment when the computer's memory is too small. The following is a list of remedies to help you overcome the crisis without having to buy extra RAM or install a virtual memory manager:

- Check whether your AUTO folder still contains ATARI patch programs which your OS no longer needs; the multitasking system MagiC doesn't require any patches for the serial port (for instance). NVDI doesn't need any ATARI VDI error correction programs...
- Remove the loadable system fonts and bitmap fonts from the file ASSIGN.SYS
- Only load those accessories which you really need or which you cannot terminate.
- Use a different desktop or reduce the number of colour icons. Remove any desktop background images. MagiC users should install MagiC-Desk 4. This powerful desktop uses a minimum of memory even when using colour icons.
- Reduce the size of the vector font cache. NVDI still works with a cache memory of only 80kB - its just a bit slower.
- Remove any external font selector or file selector, screen savers and gimmicks from the AUTO folder.
- Reduce the size of the hard disk cache.
- Reduce (if possible) the resolution and colour depth.
- If you need to free even more memory and are prepared to lose vector fonts, remove these fonts with Fontname. NVDI doesn't allocate any font cache memory if it can't find any vector fonts.

Configuration Files

NVDI.INF

This file contains initialisation information concerning the vector font caches and paths. NVDI.INF can be edited 'directly' with an ASCII editor or via the Fonts & Caches control panel. The file should look similar to the following:

```
; NVDI.INF File
;Cache Size [Given in Bytes]:
ATTRIBUT_CACHE = 32000           ;Size of attribute cache
BITMAP_CACHE = 64000             ;Size of Bitmap cache
FILE_CACHE = 128000              ;Size of File cache
KERNING_CACHE = 16000            ;Size of Kerning cache
WIDTH_CACHE = 32000              ;Size of Width cache

CHECK_FONTS = 1                  ;font check on
USE_MAC_FONTS = 1                ;load mac fonts

FIFPATH = C:\BTFONTS\            ;FIF directory (font information file)
FONTPATH = C:\BTFONTS\           ;Font directory (simple recursive)
SPOOLPATH = C:\GEMSYS\SPOOL\     ;buffer directory

PRINTMON = C:\NVDITOOLS\PRINTMON\PRINTMON.APP

LOGFILE = NULL;                  ;send messages to the NULL device
```

The meaning of each variable:

ATTRIBUT_CACHE =

The attribute cache is used in the management of font styles, effects, slope and rotation.
Minimum Size : 8kB
Recommended : 16 - 32kB

BITMAP_CACHE =

This is where the actual bitmaps are stored in memory; this value should be set according to the number and size of bitmap fonts used. If you use a lot of large bitmap fonts within a document, you should take care not to set this value too low.
Minimum Size : 16kB
Recommended : 64 - 256kB

FILE_CACHE =

The file cache buffers access to font files - it should be at least as large as the largest font you are going to use.
Minimum Size : 32kB
Recommended : 64 - 256kB

KERNING_CACHE =, WIDTH_CACHE =

Kerning and width caches contain data for positioning characters and kerning character pairs.

Minimum Size : 8kB

Recommended : 32 - 128kB

All cache sizes are entered in Bytes. With extremely large vector fonts (e.g. *Bitstream Cyberbit*, a 13MB font) you must increase the width cache size by 200 to 300kB - in the case that the font does not load because of too small a cache, you will find an error message in the NVDI log file (see NVDI variable LOGFILE) with the minimum cache size required.

CHECK_FONTS =

Defines whether font checking is on (1) or off (0)

USE_MAC_FONTS =

Sets whether vector fonts in the Mac fonts folder should be loaded

FONTPATH =

Defines a search path for vector fonts. Any subdirectories in the directory level below this will also be searched. Example:

Assuming a directory structure of 'C:\BTFONTS\SWISS.721\' and 'C:\BTFONTS\DUTCH.801\' , the setting *FONTPATH = C:\BTFONTS* allows NVDI to find all fonts in the folders 'SWISS.721' and 'DUTCH.821' and all fonts in the directory 'C:\BTFONTS\'.

If you move the folder 'SWISS.721' into 'C:\BTFONTS\HARRHAR\' then the fonts in the 'SWISS.721' folder would not be loaded (because only one level of subdirectories is searched).

Feature: If there is a folder called *HIDE* within FONTPATH (in our example that would be 'C:\BTFONTS\HIDE'), any fonts in the folder will not be loaded. *HIDE* is useful for storing any fonts you will not be using for a while - simply move them into this folder on the desktop.

FIFPATH =

Contains the optional path for the font information file (NVDI.FIF). This file is used by NVDI to store the character map for each font. If this path isn't defined, NVDI will search the fonts each time it is started, which slows down the start-up considerably. The file NVDI.FIF has to be on a writable disk as NVDI writes to this file whenever fonts are exchanged or added.

SPOOLPATH =

Sets the path for the printer buffer files. You should select a drive with the most available space (large colour prints can take up to 300MB temporarily on the hard disk). Example:

SPOOLPATH = C:\GEMSYS\SPOOL\

If this target is missing the buffer files are put in the directory of the application which is printing.

PRINTMON =

Sets the path and name of the print monitor. Example:

PRINTMON = C:\NVDITOOLS\PRINTMON\PRINTMON.APP

DEFAULT_PRINTER =

Sets the device ID (see ASSIGN.SYS) of the default printer. This is set as default on start-up by programs which provide the print dialogue box. Example:

DEFAULT_PRINTER = 21

LOGFILE =

Sets where error and status messages are put on start-up. Example:

LOGFILE = C:\NVDIBOOT.LOG

If this definition is missing, no error or status messages are reported.

ASSIGN.SYS

This file is where all VDI drivers (display, printers etc.) are registered. If you don't want to modify ASSIGN.SYS directly using a text editor, you can use the program ASSIGN, which can be found in the *NVDITOOLS* directory.

```
;
;Example ASSIGN.SYS for NVDI
PATH = C:\GEMSYS\          ; path information
01p SCREEN.SYS             ; current resolution
02p SCREEN.SYS             ; ST low (320 * 200)
03p SCREEN.SYS             ; ST medium (640 * 200)
04p SCREEN.SYS             ; ST high (640 * 400)
05p SCREEN.SYS             ; generic Falcon resolutions
06p SCREEN.SYS             ; TT medium (640 * 480)
08p SCREEN.SYS             ; TT high (1280 * 960)
09p SCREEN.SYS             ; TT low (320 * 480)
21 PCL.SYS                 ; NVDI PCL driver for HP printers (and compatible)
22 ESCP2.SYS               ; NVDI ESC/P2 driver for Epson Stylus & Stylus Color
23 CANON.SYS               ; NVDI driver for Canon Native Mode printers
24 PIN.SYS                 ; NVDI driver for dot matrix printers (Epson LQ, FX etc.)
25 MACPRN.SYS              ; NVDI driver for Macintosh printer (only NVDI/Mac)
31 META.SYS                ; NVDI metafile driver
61 MEMORY.SYS              ; NVDI memory driver
81 NTOFFICE.SYS             ; NVDI driver for Teleoffice Fax program
91 IMG.SYS                 ; NVDI driver for creation of IMG files
```

Comments within the file begin with a semicolon. With the *PATH =* variable the directory is given which contains all bitmap fonts and device drivers. In the following lines the device drivers and bitmap fonts are listed.

Before the filename of each driver is a device-ID. These 2-digit numbers define which device is to be controlled by the drivers, whereby the following ranges are pre-defined:

01-10 screen drivers	; control graphic hardware
11-20 plotter drivers	; translate commands into plot commands
21-30 printer drivers	; process graphics data for printing
31-40 Metafile drivers	; create vector graphic files
from 61 Memory drivers	; create monochrome graphics in memory
from 81 Fax drivers	; send faxes
from 91 IMG drivers	; save graphics as files in IMG format

Next to the device-ID you may find a 'p' (characterises the standard screen driver) or an 'r' (this device is loaded resident). If none of these characters are used the device driver can be loaded on request and later removed from memory.

Beneath the device driver information is a list of corresponding bitmap fonts (the extension must be '.FNT'). These are normally loaded and discarded on request (similar to the device drivers themselves). Two characters can, however, modify the behaviour of the bitmap fonts here:

R: An 'R' in front of the file name (and a space!) causes the font to be loaded at system start and remain resident in memory.

S: NVDI loads bitmap fonts which are preceded with an 'S' (and a space!) as system fonts. This is a way of replacing the system fonts on the ATARI. Note that the size and number (256) of characters has to conform to the original system fonts being replaced.

Note that only bitmap fonts are registered in ASSIGN.SYS, not vector fonts.

Hint: Whenever possible try not to use bitmap fonts. Vector fonts are not only much smaller (not requiring huge bitmap fonts for printing) but they are also much more flexible. Vector fonts are scaleable, offer pair kerning and allow true WYSIWYG. Bitmap fonts are useful only in special cases, e.g. with terminals or ASCII editors. By ignoring typographically correct character sizes and kerning, bitmap displays can in some circumstances offer a more compact display than an equivalent vector font.